1 Advertisement

Post Title: Postdoctoral Research Fellow (PDRA)
School/department: School of Life Sciences / Genome Damage and Stability Centre
Hours: full time or part time hours considered up to a maximum of 1 FTE.
Requests for flexible working options will be considered (subject to business need).
Contract: Fixed term for 3 years
Reference: A0003
Salary: Starting at £36,333 to £43,155 per annum, pro rata if part time
Placed on: 17 February 2023
Closing date: 17th March 2023. Applications must be received by midnight of the closing date.
Expected Interview date: To be confirmed
Expected start date: Flexible start dates from March 2023 to Dec 2023

Two post-doctoral research positions are available in the laboratory of Prof. Matthew Neale in the Genome Damage and Stability Centre for a period of 3 years. These positions are supported by an 8-year Wellcome Trust Discovery Award which provides capacity for long-term postdoctoral training and development.

We are a team seeking to understand the molecular mechanisms that underpin the process of genetic recombination and how this intersects with both local and genome-scale changes in chromosome structure. We will use a range of single-cell model organisms and techniques, and apply discoveries to enrich our fundamental understanding of genetic variation, chromosome segregation and aneuploidy across all species including humans.

You are a creative, conscientious, and responsible team player who can both work independently and who can contribute to the development of a broad research vision through team working and by forging internal and external collaborations.

You will have recent PhD and/or postdoctoral expertise in methods including molecular biology, genetics, chromosome conformation capture (Hi-C), ChIP-seq, super-resolution microscopy, and in the bioinformatic skills associated with interrogating complex datasets.

You will be able to demonstrate how you have applied your experience to answer key biological questions—and are now seeking the opportunity to explore open-ended research in which you will take a major role in project development, discovery and dissemination.

Alongside your research projects, you will receive 10 days per year for professional development—enabling us to nurture you to become one of the next generation of research leaders, and giving you the time and the opportunity to harness your potential.

For an overview of research in the Neale lab visit: http://www.sussex.ac.uk/lifesci/nealelab/

Recent research from our team includes the analysis of chromosome conformation in meiosis (https://pubmed.ncbi.nlm.nih.gov/31641121/) and mitosis (https://pubmed.ncbi.nlm.nih.gov/32494069/), development of methods to interrogate in vivo Topoisomerase activity (https://pubmed.ncbi.nlm.nih.gov/31649282/), and elucidation of the molecular regulation of the evolutionarily conserved Spo11 enzyme during DNA double-strand break formation (https://pubmed.ncbi.nlm.nih.gov/25539084/; https://pubmed.ncbi.nlm.nih.gov/34108687/).

Applications including a full CV, a statement of research interests and aspirations, and letters of support (and/or named referees) should be sent to lifescirecruitment@sussex.ac.uk

You are encouraged to contact Matt Neale m.neale@sussex.ac.uk informally for further discussion and information.

The School of Life Sciences at the University of Sussex is at the forefront of research in the UK. In the recent Research Excellence Framework assessment (REF 2021), 100% of our Impact cases in Biological Sciences and Chemistry were rated as world-leading or internationally excellent. The School has received substantial recent University investment and is embarking on an exciting and extensive, muti-million pound refurbishment and improvement project.

Based in the School of Life Sciences, the Genome Damage and Stability Centre (http://www.sussex.ac.uk/gdsc/), is an internationally renowned Institute carrying out research on the response of cells to DNA damage, genome instability and its relationship to disease. We provide a stimulating and supportive environment and our expertise covers a range of experimental systems.

The School of Life Sciences is committed to increasing the diversity of its staff and providing an inclusive working environment. The School currently holds an Athena SWAN Silver Award, has developed a Race Equity Action Plan, and hosts an active Equality, Diversity and Inclusion working group.

Applications are particularly welcomed from Black and minority ethnic candidates, and women, trans and non-binary candidates, who are under-represented in the School of Life Sciences.

Applications to posts from candidates who wish to work part-time or as job-sharers are welcome.

The University offers various schemes to provide real benefits to parents, these can be found at Family Friendly Policies

The University is committed to equality and valuing diversity, and applications are particularly welcomed from women and black and minority ethnic candidates, who are under-represented in academic posts in Science, Technology, Engineering, Medicine and Mathematics (STEMM) at Sussex.

"*Please note that this position may be subject to ATAS clearance if you require visa sponsorship.*"

For full details and how to apply see our vacancies page

The University of Sussex values the diversity of its staff and students and we welcome applicants from all backgrounds.

Please note: The University requires that work undertaken for the University is performed from the UK.

2. **The School of Life Sciences**

The School of Life Sciences has a mission statement to understand the mechanisms that drive biological and chemical processes; to develop innovative and diverse approaches to enhance human health, technology and the environment. It undertakes research, teaching and engagement across a wide range of the Life Sciences, from Chemistry through a range of biological and medically-related areas to Conservation Biology. The breadth and depth of cutting-edge research and innovative teaching practice requires a diverse community who

work across boundaries to deliver excellence. Multidisciplinarity is a key strength at Sussex, and the School of Life Sciences is part of two collaborative cross-School funded Strategic Research Programmes: Sussex Neuroscience (SN) and the Sussex Sustainability Research Programme (SSRP). Sussex Neuroscience brings together broad-ranging neuroscience approaches from the Schools of Life Sciences, Psychology, Engineering and Informatics, as well as the Brighton and Sussex Medical School. SSRP brings together Life Sciences, Global Studies and the University of Sussex Business School to address the United Nations sustainable development goals.

The School of Life Sciences is the largest in the University in terms of research activity, with an annual research income of around £13 million. The School has a teaching and research faculty of around 90, over 140 research staff, and an administrative team of around 20. The School is structured into five Departments led by a Head of Department. These are Biochemistry & Biomedicine, Genome Damage and Stability Centre, Neuroscience, Evolution, Behaviour & Environment and Chemistry, working closely with the Sussex Drug Discovery Centre. The Head of School Professor Sarah Guthrie leads the Head of School Executive, which includes two Deputy Heads of School (one focussed on research and enterprise, the other on education), the School Administrator and the Director of Technical Services. Wider School organisation and administration is overseen by the School Management Committee, which includes the Heads of Departments and others in Directorship roles.

Our School aims to develop scientists that are able to connect with global issues and develop innovative solutions to the challenges that face the planet. We therefore work to ensure that our research positively impacts our local community, the economy and society as a whole. We have and continue to develop relationships with business, policy and community partners ranging from local SMEs to large scale multinational organisations. Academics, researchers, and students at all levels are encouraged to engage with non-academic partners through activities such as technology and skills sharing, licencing IP, contract research or consultancy, working closely with colleagues in the Sussex Innovations and Business Partnership team.

In the recent Research Excellence Framework (REF2021), 90.6 % of our Biological Sciences outputs and 84.8% of our Chemistry outputs were rated as world-leading or internationally excellent. In both areas, 100% of our Impact cases were rated as world-leading or internationally excellent. We are proud that our research has diverse impact that includes enabling and enhancing diagnosis of cancer and rare genetic diseases, using novel chemical methods to produce new medicines, saving endangered species, influencing policy and practice in pesticide use to protect bees and establishing conservation, economic and health initiatives in Papua New Guinea and Ecuador.

Our vibrant post-graduate research community is made up of around 130 PhD students who are key to our success, undertaking cutting-edge research across all our areas of interest in the Life Sciences. We are part of a number of cross-School and multi-partner PhD programmes: the Sussex Neuroscience PhD programme, 2 Leverhulme-funded Doctoral Scholarship programmes (*Sensation and Perception to Awareness* and *Biomimetic Embodied AI*), the UKRI funded *UK Food Systems* Centre for Doctoral Training and the BBSRC *South Coast Biosciences (SoCoBio)* Doctoral Training Partnership.

The School's teaching is firmly based on our research excellence and offers students an intellectually stimulating and supportive experience, with opportunities for personal research experience and use of modern technology to enhance learning. The School has a population of around 1500 undergraduates studying a range of subjects across the School's expertise. For each degree we offer a 3-year BSc and a 4-year integrated Masters (MSci or MChem). We also offer a Life Sciences Foundation Year, which is ideally suited for students whose A-

level (or equivalent) qualifications don't meet the requirements for direct entry on to our BSc/MSci degrees. We have a population of around 85 postgraduate taught students undertaking MSc or MRes courses across our subject expertise.
The School is committed to the University's core values of kindness, integrity, inclusion, collaboration and courage. The Equality, Diversity and Inclusion Committee (with representation on the School Management Committee) promotes and encourages our values across the School, championing initiatives that meet the University's goals of being Equal, Diverse, Accessible and Flexible. We currently hold an Athena SWAN Silver Award and have a BAME Awarding Gap Committee who closely liaise with the University's Race Equality Charter committee. The School also hosts a wellbeing room and a multi-faith prayer room within its estate and the University supports the Trans Rights are Human Rights UK initiative. We believe that equality, diversity and inclusion is everyone's business and aim to provide a friendly and supportive environment for all who work, study and visit the School of Life Sciences.

CORE JOB DESCRIPTION

Job Title:	Postdoctoral Research Fellow in Genome Damage and Stability
Grade:	Research Fellow I, Grade 7
School:	School of Life Sciences
Location:	Genome Damage and stability Centre
Responsible to:	Principal Investigator through to Head of School
Direct reports:	n/a
Key contacts:	Members of research group, members of faculty within the School and University.
Role description:	Research Fellow I is an early career-grade research position. Post-holders will be expected to contribute to the work of the research team, and also to develop their research skills with support from more experienced members of staff.

PRINCIPAL ACCOUNTABILITIES

1. To engage in individual and/or collaborative research activity resulting in high-quality publications; and to develop research funding and knowledge exchange income individually or in collaboration with others, as appropriate, depending on the size and scope of the bid.

2. To contribute to School teaching activities.

KEY RESPONSIBILITIES

1. Research, Scholarship & Enterprise

1.1 Develop research objectives and proposals for own or joint research, at acceptable levels, with assistance if required.

1.2 Conduct research projects individually and in collaboration with others.

1.3 Analyse and interpret research findings and draw conclusions on the outcomes.

1.4 Produce high-quality research outputs for publication in monographs or recognised high-quality journals, or performance/exhibition, as appropriate, and contribute to the School's REF submission at acceptable levels of volume and academic excellence.

1.5 Contribute to the preparation of proposals and applications to external bodies, for example for funding purposes.

1.6 Individually or with colleagues, explore opportunities for enterprise activity, knowledge exchange income and/or consultancy, where permissible.

1.7 Build internal contacts and participate in internal networks and relevant external networks in order to form relationships and collaborations.

1.8 Continually update knowledge and understanding in field or specialism, and engage in continuous professional development.

2. Teaching & Student Support

2.1 Undertake teaching duties, if required.

2.2 Assist in the assessment of student knowledge and supervision of student projects if required.

2.3 Assist in the development of student research skills, for example as part of a postgraduate supervision team.

3. Contribution to School & University

3.1 Attend and contribute to relevant School and project meetings.

3.2 Undertake additional duties, as required by the Principal Investigator and/or Head of School.

4. Role-specific duties

4.1 To pursue a research project with a level of independence, creativity, attention to detail, and scientific rigour appropriate for a postdoctoral fellow.

4.2 To develop new technologies and methodologies and/or learn and integrate relevant new techniques to investigate their project.

4.3 To collate and analyse data, using computer scripting and bioinformatic packages relevant to the problem.

4.4 To prepare written manuscripts and data figures to a level suitable for peer review.

This Job Description sets out current duties of the post that may vary from time to time without changing the general character of the post or level of responsibility entailed.

INDICATIVE PERFORMANCE CRITERIA

- A PhD or equivalent scholarly or relevant professional activity
- Pursuing a line of independent research within a research group.
- Publishing research (either from a recently completed PhD or new original research).
- Other forms of externally recognised professional practice of creative output of a standing equivalent to regular publication of original research.
- Initiating, developing or participating in links between the University and external bodies such as business and industry, the professions, community organisations and policy-makers.
- Evidence of successful engagement in teaching or supervision.

PERSON SPECIFICATION

ESSENTIAL CRITERIA

1. Normally educated to doctoral level, or other equivalent qualification, or appropriate level of experience, as appropriate to the discipline (see role-specific criteria below).
2. Evidence of engagement in high-quality research activity.
3. Excellent presentation skills, with the ability to communicate effectively, both orally and in writing, with students, colleagues and external audiences.
4. Ability to work individually on own initiative and without close supervision, and as part of a team.
5. Ability to exercise a degree of innovation and creative problem-solving.
6. Excellent organisational and administrative skills.
7. Ability to prioritise and meet deadlines.
8. Excellent IT skills.

ESSENTIAL ROLE-SPECIFIC CRITERIA

1. Demonstrable experience in standard yeast genetics and molecular biology and/or a clear aptitude and demonstrable ability to learn such techniques, including: genomic DNA and RNA preparation, SDS-PAGE analysis, Immunoprecipitation, Southern blotting, Radioisotope labelling, transformation, cloning, protein expression.
2. Demonstrable experience in a range of the following genomics techniques: ChIP-seq, Hi-C, Micro-C, Hi-ChIP, RNA-Seq, GRO-Seq, next-generation sequencing protocol development, and demonstrable experience developing scripts to analyse and compare such large genomics datasets.

3. Experience in some or all microscopy techniques: Immunofluorescence staining, live-cell imaging, super-resolution microscopy (STED, STORM, PALM, etc)

4. Comprehensive knowledge and interest in the general field of chromosome biology including DNA recombination, DNA replication, gene transcription, DNA topology, chromosome conformation and compartmentalisation, and genome stability.

5. Demonstrably self-motivated, creative, independent, and conscientious team player.

6. Track record of peer-reviewed publications with evidence of productivity and emerging independence.

DESIRABLE CRITERIA

1. Demonstrable experience in developing new methodologies and/or analytical techniques in order to answer a biological question.

2. Emerging track record of high-quality publications in reputable journals and other appropriate media of similar standing.

3. Experience of generating research or knowledge exchange income.